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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,473	09/19/2003	Patrick L. Magee	03FD080/KE	8852
7590	02/08/2006		EXAMINER	
ROCKWELL COLLINS, INC.			GOKHALE, SAMEER K	
Attention: Kyle Eppele M/S 124-323 400 Collins Rd. NE Cedar Rapids, IA 52498			ART UNIT	PAPER NUMBER
			2673	
DATE MAILED: 02/08/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/666,473	MAGEE ET AL.
Examiner	Art Unit	
Sameer K. Gokhale	2673	

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 19 September 2003.

2a)  This action is FINAL.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-34 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-34 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 19 September 2003 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Regarding claim 1 and 21, “a first processor [or a first processing means] receiving input data and creating a pixel data stream provided over a first channel and a second channel...” recited on lines 2-3 of claim 1 must be shown. Here, in Fig. 1, graphics engine 130 provides a single pixel data stream to the color detector 140, however it does not create a pixel data stream provided over a first channel and a second channel.

Regarding claims 14, 15, and 34 there is no figure showing “a fourth channel over which pixel data is provided from the first processor” as recited in line 4 of claim 14 and line 4 of claim 34.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-15 and 21-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1-15, and 21-34, claim 1 and claim 21 both include the limitation of a "a first processor [or processing means], receiving input data and creating a pixel data stream provided over a first channel and a second channel" on lines 2-3 of both claims. Claims 1 and claim 21 also include the limitation of "a second processor [or processing means] coupled to the first processing means...the second processor

computes a derived version of the inputs based on the location information and the symbol information" on lines 6-10 of both claims. The enablement of this claim is questioned because if the symbol generator 110 or the graphics engine 130 are construed to be the first processor, then neither of them are coupled to the second processor 120, nor do they provide a pixel data stream over a first channel and a second channel. If the color detector 140 is construed as the first processor then it does not create a pixel data stream because that is the function of the graphics engine. Therefore there is no first processor disclosed by the applicant that meets the requirements of claims 1 or 21.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the third channel" in line 1. There is insufficient antecedent basis for this limitation in the claim.

It is noted to applicant that due to the above rejections under 35 U.S.C. 112, the following rejections are based on the claims as best understood by the examiner.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 6-9, 16-20, 21-23, 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Desmond et al. (US 4,698,785) (hereafter, "Desmond").

Regarding claim 1 and 21, Desmond teaches an information processing system, comprising: a first processor (Fig. 1, the combination of items 18, 36, and 50, and 52 constitute the first processor), receiving input data (Fig. 1, the system input data) and creating a pixel data stream (Fig. 1, see col. 10, lines 20-34, the input variables X, Y, Z connected to the CRT are the pixel data stream) provided over a first channel (Fig. 1, the combination of lines for X, Y and Z constitute the first channel) and a second channel (Fig. 1, see col. 11, lines 11-15, the combination of lines for X, Y, and Z that are between the CRT and the A/D converters constitute the second channel, and they are provided by the first processor because they carry the same data output from item 50), the first channel providing a signal to affect the output of a pixilated display (Fig. 1, see col. 10, lines 20-34), the second channel including location information and symbol information (Fig. 1, see col. 10, lines 20-34, the lines X, Y, and Z which constitute the second channel contain the same location information and symbol information to be used on the CRT); and a second processor (Fig. 1, the combination of items 14, 26, 54, 56, and 58) coupled to the first processor (Fig. 1, the lines for "blank symbol", "display disable", and "symbol flag" couple the first processor to the second processor), the

second processor receiving the location information and the symbol information from the first processor (Fig. 1, see col. 10, lines 20-34, the lines X, Y, and Z are received from the first processor), and the second processor receiving the input data (Fig. 1, the system input data is also input into the second processor), the second processor computes a derived version of the inputs based on the location information and the symbol information (see col. 11, lines 6-28).

Regarding claim 2 and 22, Desmond teaches the information processing system wherein the first processor comprises a symbol generator (Fig. 1, item 36).

Regarding claim 3 and 23, Desmond teaches an information processing system wherein the first processor comprises a graphics engine (Fig. 1, the display symbol generator constitutes a graphics engine).

Regarding claim 6 and 26, Desmond teaches an information processing system wherein the input data comprises aircraft sensor data (see col. 7, lines 57-65).

Regarding claim 7 and 27, Desmond teaches an information processing system wherein the input data comprises aircraft control surface data (see col. 7, line 64).

Regarding claim 8 and 28, Desmond teaches an information processing system wherein the derived version is computed using a matrix inversion process (see col. 5, lines 4-9).

Regarding claim 9 and 29, Desmond teaches an information processing system wherein the second processor compares the input data and the derived version of the input (see col. 12, lines 39-43).

Regarding claim 16, Desmond teaches a method of providing integrity checking for a pixilated display device, comprising: receiving input data (Fig. 1, the system input data) by a first processor ((Fig. 1, the combination of items 18, 36, and 50, and 52 constitute the first processor); generating drawing instructions (see col. 9, lines 19-29) for a graphics engine (Fig. 1, item 36); outputting pixel data to a detector (Fig. 1, item 42, see col. 9, lines 63-68, the symbol identifying means is a detector); receiving, by a display (Fig. 1, item 52), at least some of the pixel data over a first channel (Fig. 1, the combination of lines for X, Y and Z constitute the first channel); receiving over a second channel (Fig. 1, see col. 11, lines 11-15, the combination of lines for X, Y, and Z that are between the CRT and the A/D converters constitute the second channel), by a symbol monitor (Fig. 1, item 26), at least some of the pixel data (Fig. 1, lines X, Y, Z comprise the pixel data); and receiving the input by the symbol monitor (Fig. 1, the system input data).

Regarding claim 17, Desmond teaches generating derived input information based on the pixel data received over the second channel (see col. 11, lines 6-28, where it is deriving input information based on the X and Y data, which is the pixel data received over the second channel).

Regarding claim 18, Desmond teaches comparing the derived input information with the input information (see col. 12, lines 39-43).

Regarding claim 19, Desmond teaches issuing an error warning if the comparison is not within a predefined threshold (see col. 13, lines 15-17, and see col.

17, lines 32-37, where the preassigned operational tolerance is the predefined threshold).

Regarding claim 20, Desmond teaches canceling the drawing instructions if the comparison is not within a predefined threshold (see col. 13, lines 2-5, and see col. 17, lines 32-37).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 4, 5, 24, and 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Desmond in view of Bioteau et al. (US 5,335,177)(hereafter, "Boiteau").

Regarding claims, 4 and 24, Desmond teaches the limitations of claims 1 and 21 as discussed above, however, Desmond does not teach a system wherein the pixilated display comprises a liquid crystal display.

However, Bioteau does teach a system for ensuring reliability of data used to pilot an aircraft where the pixilated display comprises a liquid crystal display (see col. 1, lines 17-23).

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Desmond with the liquid crystal display of

Bioteau, where the motivation to combine is to use a standard display device used in piloting systems at the time of the invention.

Regarding claims 5 and 25, Desmond teaches the limitations of claims 1 and 21 as discussed above, however, Desmond does not teach a system wherein the pixilated display comprises an information source for a heads-up display.

However, Bioteau does teach a system wherein the pixilated display comprises an information source for a heads-up display (see col. 1, lines 29-35).

Therefore, it would have obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Desmond with the head-up display of Bioteau, where the motivation to combine is to use a display device that allows the pilot to see the display as well as the view outside simultaneously.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Factor (US 6,281,810) teaches a method for redundant avionics for critical flight instruments. Lewandowski (US 4,541,066) teaches a method and apparatus for checking the functions of a display system.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sameer K. Gokhale whose telephone number is (571) 272-5553. The examiner can normally be reached on M-F 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKG  
February 3, 2006

Sameer Gokhale  
Examiner  
Art Unit 2673



Jimmy Nguyen  
PRIMARY EXAMINER